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[54] **TIME-MULTIPLEXED SHORT-RANGE MAGNETIC COMMUNICATIONS**

[75] Inventors: **Vincent Palermo**, Westford; **Patrick J. Cobler**, Belmont; **Neal R. Butler**, Acton, all of Mass.

[73] Assignee: **Aura Communications, Inc.**, Wilmington, Mass.

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Related U.S. Application Data

[63] Continuation-in-part of application No. 08/444,017, May 18, 1995, abandoned, which is a continuation-in-part of application No. 08/696,812, Aug. 13, 1996.

[51] **Int. Cl.**[6] **H04J 3/00**

[52] **U.S. Cl.** **370/345**; 455/101

[58] **Field of Search** 370/345, 334, 370/321, 329; 455/41, 101, 131, 133, 134, 11.1

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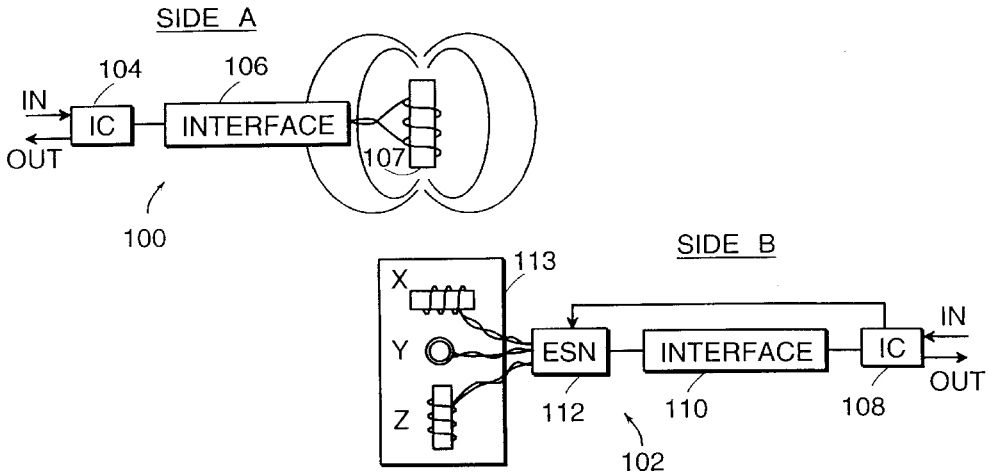
Primary Examiner—Chi H. Pham
Assistant Examiner—Kim T. Nguyen
Attorney, Agent, or Firm—Testa, Hurwitz, & Thibeault, LLP

[57] **ABSTRACT**

A magnetic induction time-multiplexed two-way short-range wireless communications system, and related method, includes a first portable unit and a second portable unit. The first portable unit receives first unit input signals and provides first unit output signals. Also, the first portable unit includes a first unit transducer system for generating a first inductive field based upon the first unit input signals during a first time slot and for converting a second inductive field into the first unit output signals during a second time slot. The second portable unit receives second unit input signals and provides second unit output signals. Also, the second portable unit includes a second unit transducer system for generating the second inductive field based upon the second unit input signals during the second time slot and for converting the first inductive field into the second unit output signals during the first time slot.

4 Claims, 4 Drawing Sheets